
JOURNAL

OF THE

ARNOLD ARBORETUM

VOLUME V

OCTOBER, 1924

NUMBER 4

NOTES ON THE GENUS PINUS

GEORGE RUSSELL SHAW

THE OBLIQUE CONE

To the characters that authors employ for circumscribing *Pinus*, should be added the tendency of the genus to produce oblique cones. This form of cone is usually described as asymmetrical, but it is not absolutely without symmetry, for it may be divided into two like parts by a plane passing through the axes of both the cone and its branch, while the cones of *Picea* and other allied genera are symmetrical with reference to any plane that includes the cone-axis.

In *Pinus* the cones grow from the nodes only of the branch and, when the branchlet bears more than one cone, they are disposed in verticillate groups. The reflexed oblique cone fits perfectly into the verticillate arrangement, the thickness and the size of the scales varying with the difference of exposure. This peculiar elaboration, in its perfection, appears among the serotinous Pines whose cones persist on the tree and retain their seeds intact for many years.

In its least development the oblique form may be seen in the curved cones, or in the eccentric insertion of the cone-peduncle, of many species of both sections. It is the result of a lesser or greater inequality in the growth of the anterior and posterior tissues. In some degree it is present in all, or nearly all of the Pines and various degrees of obliquity are associated in the same species. It is sufficiently prevalent to be accepted as a characteristic peculiarity of the genus.

SECTIONAL CHARACTERS

The characters determining the two sections of *Pinus* are many but they are not all absolutely invariable.

Haploxyton

Fibro-vascular bundle of the leaves single.

Sheath of the leaf-fascicle deciduous.

Bracts subtending the leaf-fascicles not decurrent on the branchlet.

Staminate flowers not sufficiently developed in the winter-bud to be apparent.

Connective of the pollen-sacs relatively small.

Cones of lower phyllotaxis.
 Ray-tracheids with smooth walls.
 Bark-formation late.

Diploxyton

Fibro-vascular bundles of the leaves double.
 Sheath of the leaf-fascicle persistent.
 Bracts subtending the leaf-fascicles decurrent on the branchlet.
 Staminate flowers sufficiently developed in the winter-bud to be recognized.
 Connective of the pollen-sacs relatively large.
 Cones of higher phyllotaxis.
 Ray-tracheids with dentate walls.
 Bark-formation early.

Several of these characters are subject to a few exceptions such as, for instance, the persistent sheath of the Soft Pine, *P. Nelsonii* Shaw or the deciduous sheath of the Hard Pine, *P. leiophylla*, the large connective of *P. excelsa* Wall. or the small connective of *P. sylvestris* L., the late bark-formation of *P. halepensis* Mill., *P. pseudostrobus* Lindl., etc., etc. Nevertheless there is no difficulty in placing a species in its proper section, for, in every case, the determinative characters so predominate that the recognition of a Soft, or a Hard Pine is immediate.

SUBSECTIONS AND GROUPS

In the section Haploxyton the subsections are determined by the peculiarities of the cones while the groups follow the construction of the seeds (Shaw, Gen. Pinus, 25, [1914]). In Flexiles, however, the seed is not sufficiently distinct to justify the retention of this group. The seed-wing, though very short, is nevertheless obvious and, like the wing of the Strobi, is adnate to the nut. The seed-wings of the subsection Strobi vary much in length and, in the *P. ayacahuite* Ehrenb., the wing of the northern variety is almost rudimentary and so like that of *P. flexilis* James that the demarcation between Flexiles and Strobi is not clearly defined. With this change the subsections and groups should be tabulated as follows:

A—HAPLOXYTON.

a—CEMBRA.

Scales of the conelet unarmed, umbo of the cone-scales terminal, pits of the ray-cells large.

I—Cembrae.

Cones indehiscent.

Seeds wingless.

II—Strobi.

Cones dehiscent.

Seeds with an adnate wing.

b—PARACEMBRA.

Scales of the conelet armed, umbo of the cone-scales dorsal, pits of the ray-cells small.

III—Cembroides.

Seeds wingless.

IV—Gerardianae.

Seeds with a short deciduous wing.

V—Balfourianae.

Seeds with a long effective wing.

B—DIPLOXYLON.

c—PARAPINASTER.

Fascicle-sheath or seed-wing of Haploxyton.

VI—Leiophyllae.

Fascicle-sheath deciduous.

VII—Longifoliae.

Seed-wing of the Strobi.

VIII—Pineae.

Seed-wing of the Gerardianae.

d—PINASTER.

Fascicle-sheath persistent, seed-wing articulate.

IX—Lariciones.

Seed-wing membranous throughout.

Cones opening at maturity.

Pits of the ray-cells large.

X—Australes.

Seed-wing membranous throughout.

Cones opening at maturity.

Pits of the ray-cells small.

XI—Insignes.

Seed-wing membranous or slightly thickened.

Cones serotinous.

Pits of the ray-cells small.

XII—Macrocarpae.

Seed-wing very thick at base.

PINUS KREMPFII

1921—P. KREMPFII H. Lecomte in Bull. Mus. Hist. Nat., 191, figs.

The leaves of this new species from Annam contain single fibro-vascular bundles and the fascicle-sheath is deciduous. Lecomte's species is, therefore, a Soft Pine (Haploxyton). The dorsal umbo of the cone-scales places it in the subsection Paracembra while the long and effective seed-wing associates it with the group Balfourianae.

NOTES ON CHINESE LIGNEOUS PLANTS

H. H. Hu

While working on a manual called 'Synopsis of Chinese Genera of Phaenogams with Descriptions of Representative Species' I find it necessary to make a number of new combinations of species to be mentioned therein. In this Synopsis I am not following the International Rules of Botanical Nomenclature in retaining the Nomina Conservanda, but am using the oldest generic names since the publication of Linnaeus' Species Plantarum in 1753. As the Arnold Arboretum in its publications follows the International Rules, only those combinations which are in accordance

with these rules are given here. Neither did I attempt to make here the necessary combinations of all Chinese species, but only of those species which are included in my book, nor are the new combinations of herbaceous plants given, since the Journal of the Arnold Arboretum is devoted only to woody plants. A few supplementary descriptions are published, based on more complete material in the herbarium of this Arboretum, and a few new species are proposed and described which I discovered while studying the herbarium material of this Arboretum in connection with my work.

***Vanieria tricuspidata*, comb. nov.**

MacLura tricuspidata Carrière in Rev. Hort. (1864), 390.

Cudranus trilobus Hance in Journ. Bot. vi. 49 (1868).

Cudrania tricuspidata Bureau in Lavallée, Arb. Segrez. 243 (1876).

E. D. Merrill identified Loureiro's obscure species *Vanieria cochinchinensis* with *Cudrania javanensis* in his Commentary on Loureiro's Flora Cochinchinensis, and T. Nakai independently reached the same conclusion when he recently studied in the Arnold Arboretum. As *Cudrania* is not a nomen conservandum and *Vanieria* is an earlier name, it should be adopted, hence the new combination.

***Polychroa scabra*, comb. nov.**

Pellionia scabra Benthām, Fl. Hongk. 330 (1861).

Polychroa is another of Loureiro's genera which E. D. Merrill succeeded to identify with a more recent and generally accepted genus, in this case *Pellionia* Gaudichaud. Following him I propose this new combination.

***Magnolia Fordiana*, comb. nov.**

Manglietia Fordiana Oliver in Hooker's Icon. xx. t. 1953 (1881).

Manglietia differs from *Magnolia* in having six or more ovules in each carpel instead of two. I quite agree with Prantl (in Engler & Prantl, Nat. Pflanzenfam. iii. abt. i. 16 [1888]) in considering the difference not of generic importance and consequently in the reduction of *Manglietia* to *Magnolia*.

***Spatholobus parviflorus*, comb. nov.**

Butea parviflora Roxburgh, Hort. Bengal. 53 (1814); Fl. Ind. iii. 248 (1832).

Spatholobus Roxburghii Benthām in Pl. Jungh. 238 (1851-55).

***Aspidopteris orbiculata*, comb. nov.**

Hiraea orbiculata Roxburgh, Hort. Bengal. 90 (1814), nomen; Wallich, Pl. As. Rar. i. 13 (1830).

Hiraea nutans Roxburgh, Fl. Ind. ii. 447 (1832).

Hiraea rotundifolia Roxburgh, l. c. 448.

Aspidopteris nutans Hooker f., Fl. Brit. Ind. i. 421 (1875).—Non A. Juss.

***Fagara mengtzeana*, nom. nov.**

Zanthoxylum multifoliolatum Hemsley in Hooker's Icon. xxvi. t. 2595 (1899).

This species is referable to *Fagara*, and as there is already a *Fagara multifoliolata* Engler which is a native of Pondoland, Africa, a new name is proposed here.

Walsura trijuga Kurz var. **microcarpa**, comb. nov.

Heynea trijuga Roxburgh var. *microcarpa* Pierre, Fl. Forest. Cochinch. v. in textu ad t. 355 (1899).

Harms (in Engler & Prantl, Nat. Pflanzenfam. III. abt. IV. 303 [1896]) reduced *Heynea* Roxburgh to a section of *Walsura* Roxburgh and in following him a new combination of Pierre's varietal name becomes necessary.

Tapirira hirsuta, comb. nov.

Robergia hirsuta Roxburgh, Fl. Ind. II. 455 (1832).

Tapiria hirsuta Hooker f., Fl. Brit. Ind. II. 28 (1879).

Tapirira Aublet was published in 1775, while *Tapiria* Jussieu was not published until 1789, thus the former generic name should be adopted. As Hooker f. used Jussieu's *Tapiria*, we cannot ascribe the correct combination to him, although the difference between these two names is slight, therefore the combination under *Tapirira* should be considered as new.

Stemonurus hainanensis, comb. nov.

Gomphandra hainanensis Merrill in Philip. Journ. Sci. XXI. 348 (1922).

Stemonurus Blume was published in 1825, *Gomphandra* Wallich in 1832, therefore the former generic name should be adopted and a new combination made for this species.

Elaeocarpus kwangtungensis, sp. nov.

Ramuli foliorum basibus asperata. Folia obovata, 4–9 cm. longa et 2–3.5 cm. lata, obtusa vel obtuse cuspidata, obtuse et adpresse serrata, basin versus angustata et in petiolum planum subalatum 5–12 mm. longum decurrentia, supra glabra, subtus pilis fasciculatis verrucas elevatas insidentibus instructa. Pedunculi et pedicelli satis validi; pedicelli 6 mm. longi. Fructus ellipsoideo-oblongus, satis siccus, laevis, 12–14 mm. longus et 7 mm. diam.

Affinis *E. chinensi* Hooker f., sed differt foliis obovatis non acuminatis, basi in petiolum latum non canaliculatum decurrentibus et subtus pilis fasciculatis in verruculis leviter elevatis instructis.

KWANGTUNG: vicinity of Canton City, *C. O. Levine*, Canton Christian College Herbarium, no. 1623, September 24, 1917 (type). This specimen was identified by E. D. Merrill as *E. chinensis* Hooker f. from which it differs in several important points, as stated above.

Elaeocarpus yentangensis, sp. nov.

Arbor 4.5 m. alta. Folia sparsa, lanceolata vel oblanceolata ad elliptico-obovata, 7–9 cm. longa et 3–4 cm. lata, breviter et obtuse acuminata, basi cuneata vel rotundata, ut videtur articulata, remote vel dense adpresse serrata, supra glabra et lucide viridia, subtus obscure et pallide viridia, satis manifeste reticulata; petioli 1.5–3 cm. longi. Fructus late ellipsoideus, 12 mm. longus et 9 mm. diam., pallide coeruleus, carnosus, rugosus in sicco.

Affinis *E. glabripetalo* Merrill, sed fructus major et crassior.

CHEKIANG: South Yeng-tang Shan, Ping-yang district, *H. H. Hu*, no. 237 (type), August 24, 1920.

***Sloanea sinensis*, comb. nov.**

Echinocarpus sinensis Hance in Jour. Bot. xxii. 108 (1884).

Tree about 10 m. high, with spreading and pithy branches. Leaves oblanceolate, acuminate, obtusely or acutely cuneate at base, entire or remotely dentate above the middle, veins and reticulations not very prominent, glabrous above, puberulous beneath especially along the veins, 10 cm. long, 4 cm. broad; petiole 1–3 cm. long. Flowers greenish-white, about 1.5 cm. in diameter; peduncle 6–8 cm. long, gray-pubescent. Sepals oblong, about 6 mm. long, 4 mm. broad, gray-pubescent. Petals broader than long, deeply lobed, gray-pubescent. Stamens numerous, crowded; anthers apiculate, with straw-colored sericeous pubescence. Ovary conical, gray-pubescent. Fruit with 5–6 stellately spread woody valves colored purple inside; setae rigid, slender, filiform, covered with straw-colored pubescence. Seeds with a yellowish arillus, solitary in each cell.

KWANGTUNG: Lo-fau shan, *E. Faber*, September, 1883 (Herb. Hance, no. 22216).

CHEKIANG: Swen-chi, southern Yeng-tang shan, Ping yang district, *H. H. Hu*, no. 95, August 26, 1920.

This species was confused with *Sloanea Hemsleyana* Rehd. & Wils., from which it differs in its smaller flowers and generally paler pubescence of flower and fruit. As the original description was based only on a fruiting specimen, a more complete description including that of the flowers is given here.

***Eriolaena szemaoensis*, sp. nov.**

Arbor 5–10 m. alta; ramuli graciles, plus minusve stellato-tomentosi, mox glabrescentes. Folia orbiculari-ovata, 6–11 cm. longa et 7.5–10 cm. lata, apice obtusa vel obtuse acuteve acuminata, basi late cordata, toto margine crenato-dentata, supra stellato-tomentosa, subtus dense fulvide stellato-tomentosa; petioli plus minusve stellato-tomentosi, 2–3.5 cm. longi. Flores 3.5 cm. diam., in paniculis multifloris; bracteolae paullo infra flores, lineari-lanceolata, circiter 4 mm. longa, acuta, integra, reflexa, cinereo-tomentosa; alabastra oblonga, acuta, medio leviter constricta; calyx initio spathaceus, demum 5-partita; sepala lineari-lanceolata, extus fulvide stellato-tomentosa, intus colorata et sparse adpresse tomentosa, 2.5 cm. longa et 3.5 mm. lata; petala obovato-spathulata, ut videtur lutescentia, sepalis aequilonga, circiter 5 mm. lata, unguiculo villosa; tubus staminalis 18 mm. longus; antherae 3 mm. longae; stylus villosus, apice clavatus et glandulosus, stigmatibus lobis 8 brevibus erectis. Capsula pedunculo incrassato et valido insidens, conico-ovoidea, 3.5–5 cm. longa et 2–2.5 cm. diam., apiculata, dense fulvide stellato-tomentosa, 8-valvata, valvis acutis in costis tuberculatis demum glabrescentibus, intus villosis;

semina 8 in quoque loculo, biseriata, adscendentia et imbricata, alis ad 12 mm. longis exclusis 4-5 mm. longa.

Affinis *E. spectabili* Planch., sed differt floribus minoribus, valvis capsulae acutis, foliis crenato-dentatis et subtus dense fulvide stellato-tomentosis.

YUNNAN: Szemao, *A. Henry*, nos. 11873 (type), 12506, 12506 A and 12506 B.

***Eriolaena glabrescens*, sp. nov.**

Frutex 3 m. altus; ramuli plus minusve stellato-pubescentes. Folia orbiculari-ovata, 7-11 cm. longa et 6.5-10 cm. lata, acuta vel breviter acuminate, basi truncata vel late cordata, crenato-serrata, supra sparse, ad venas subtus densius stellato-pubescentia, demum utrinque glabrescentia, petioli 2-3 cm. longi; inflorescentia corymbosa, multiflora, rufo-stellato-tomentosa; bracteolae spathulato-ligulatae, profunde pinnatifidae, circiter 1.5 cm. longae, rufo-stellato-tomentosae; alabastra conico-oblonga, apiculata, flavido-alba; filamenta tubi staminalis et antherae breviora quam in specie precedente; stylus villosus, lobis stigmatis 8 recurvis. Fructus ignotus.

Affinis *E. Candollei* Wall., sed differt foliis utrinque glabrescentibus venis rufis stellato-pubescentibus exceptis, juvenilibus etiam stellato-pubescentibus tantum in venis et venulis.

YUNNAN: Szemao, southern mountains, *A. Henry*, no. 12343 (type).

***Pterospermum Levinei* Merrill in Philipp. Jour. Sci. XIII. 125 (1918).**

Tree about 13 m. high; the young parts densely rusty to whitish tomentose; branches terete, glabrous, slender. Leaves oblong to obcuneate, acuminate to short-cuspidate, subcoriaceous, entire, base slightly inequilateral and truncate to obcordate, brownish-olive, shining and glabrous above, densely tomentose beneath, 8-14 cm. long and 4-5.5 cm. broad; petiole about 8 mm. long; stipules ovate to oblong-ovate, entire, inequilateral, acute to acuminate, minutely white-tomentose on both surfaces, about 5 mm. long, deciduous. Flowers axillary, solitary or 2-3 together; peduncle stoutish, 5-10 mm. long, densely tomentose, bracteoles 2, lacinate, lobes subulate, tomentose, persistent; pedicels about 5 mm. long; calyx deeply divided, to 2.5 cm. long, segments narrow spathulate, obtusish, tomentose outside, appressed sericeous-villose inside, 2 cm. long, 3 mm. broad; petals red, spatulate, as long as the calyx-segments and slightly broader; stamens $\frac{2}{3}$ as long as the rough and stellate-pilose rudimentary stamens, 1 cm. long; anthers linear, 5 mm. long; ovary ovoid, densely hirtellate. Fruit ellipsoid to oblong-ellipsoid, terete, apex minutely and shortly acuminate, base stipitate, densely and minutely rusty stellato-tomentose, 4.5-5 cm. long; stipe about 8 mm. long; seeds with wings about 2.5 cm. long, 6-7 mm. broad.

KWANGTUNG, HAINAN.

In the herbarium of the Arnold Arboretum there is a flowering specimen

of *Pterospermum* collected by Faber at Hainan without number, which was formerly identified as *P. acerifolium*. Upon critical examination I am sure that it is identical with Merrill's new species collected by Levine at Canton. As the latter was based on a fruiting specimen only, I give here a complete description including that of the flowers based on Faber's specimen.

***Syzygium gracilentum*, comb. nov.**

Eugenia gracilenta Hance in Journ. Bot. xxiii. 7 (1885).

Hance referred this species to the sect. *Syzygium*. Since it is better to separate *Syzygium* from *Eugenia* as a distinct genus, I propose this new combination.

***Gilibertia acuminatissima*, comb. nov.**

Dendropanax acuminatissimum Merrill in Philipp. Jour. of Sci. xiii. 152 (1918).

Gilibertia Ruiz & Pavon was published in 1794 and *Dendropanax* Planchon in 1854. Nakai reduced the latter to a section of *Gilibertia* (see p. 22 of this vol.); in following him I propose this new combination.

***Maesa Henryi*, sp. nov.**

Maesa castaneifolia Mez in Engler Pflanzenr. iv.-236 (Myrsinac.) 44 (1902), pro parte.

Frutex 1.2-1.8 m. altus. Folia elliptica vel lanceolata, 10-15 cm. longa et 3.5-5 cm. lata, acuminata vel acuta, basi subrotundata vel cuneata, remote serrata vel subintegra, supra glabra, subtus ad venas puberula; petioli ad 12 mm. longa. Inflorescentia diffuse paniculata, multiflora, glabra; pedicelli graciles, patentes: flores albi, in sicco pallide cremei; calycis lobi late triangulari-ovati, obtusi, patentes, tertiam partem corollae aequantes; corolla rotato-campanulata, lobis ovatis patentibus. Fructus succulentus, turbinatus vel subglobosus, 6 mm. longus, calycis lobis persistentibus patentibus coronatus; semina angulata, nigra.

Affinis *M. castaneifoliae* Mez, sed differt inflorescentia laxiore, corolla rotato-campanulata, fructu magis majore succulenta et seminibus nigris.

YUNNAN: Szemao, *A. Henry*, nos. 11625 (type) and 11625 A; *G. Forrest*, no. 16151.

SZECHUAN: Yangtze banks, *E. H. Wilson*, Veitch Exp. no. 4059, April, 1904; Bank of Yangtze, Chung chow, alt. 150 m., *E. H. Wilson*, no. 3257, April, 1908.

***Tylophora Dielsii*, comb. nov.**

Hoyopsis Dielsii Léveillé in Fedde, Rep. Spec. Nov. xiii. 262 (1914).

Tylophora Hoyopsis Léveillé, Fl. Kouy-Tchéou, 44 (1914).

The combination made by Léveillé under *Hoyopsis* was not in accordance with the rules of nomenclature as he disregarded his former specific name given under his genus *Hoyopsis*, therefore a new combination is necessary.

Brandisia Hancei Hooker f., Fl. Brit. Ind. iv. 257 (1885).

Brandisia discolor Hance in Jour. Linn. Soc. xviii. 299 (1880).—Non Hooker f. & Thomson.

Stellate-tomentose shrub 1.5 m. high, stem glabrous or scaberulous; branchlets usually densely rusty, woolly-tomentose, terete. Leaves opposite, ovate-lanceolate to oblong-lanceolate, acute, cordate at base, subentire or obsoletely serrate, with deciduous rusty tomentum when young and finally glabrous and with impressed veins above, densely rusty tomentose and with prominent veins beneath, thickly coriaceous, up to 5 cm. long and 2.5 cm. broad; petiole densely rusty-tomentose, about 5 mm. long. Flowers axillary, solitary or 2 together; peduncles 5–6 mm. long, pedicels up to 8 mm. long, both densely tomentose as well as the outside of the calyx; calyx broad-campanulate, 12 mm. long, 5-dentate, teeth broad, rounded-triangular, cuspidate, with strong midrib and 2 lateral veins, villosulose inside; corolla 2.5 cm. long, 12 mm. broad, tubular-campanulate, throat slightly swollen under the upper lip, tomentulose outside and inside, upper lip straight, subentire, 6 mm. long, lower lip shortly 3-lobed; stamens 4, didynamous, included; anthers rounded-reniform, attached at the back, covered with a long coarse beard in front; style very long, slightly dilated at the apex; stigma punctate. Capsule ovoid-globose, tomentose, 1 cm. in diameter, acute at the apex, subtended by the persistent calyx.

SZECHUAN, YUNNAN.

As there was never published a good and detailed description of this species since Hooker separated it from *B. discolor*, I take this opportunity to remedy the deficiency.

Tricalysia mollissima, comb. nov.

Diplospora mollissima Hutchinson in Sargent, Pl. Wilson. iii. 401 (1917).

In reducing *Diplospora* De Candolle to a section of *Tricalysia* Richard, it is necessary to make this combination.

ARNOLD ARBORETUM,
October, 1924.

A NEW SPECIES OF REEVESIA

ERNEST H. WILSON

Reevesia sinica, sp. nov.

Reevesia Wallichii Dunn in Jour. Linn. Soc. xxxix. 484 (1911).—Non R. Brown.

Reevesia pubescens Rehder & Wilson in Sargent, Pl. Wilson. ii. 376 (1915).—Non Masters.

Arbor 20-metralis; truncus circuitu 1.5 m., cortice saturate cinereo, firmo, leviter rimoso; ramuli hornotini tomento fulvo stellato dense obtecti, demum glabrescentes et rubro-purpurei. Folia petiolata, coriacea, oblonga

vel elliptico-oblonga, rarius elliptica, 3-5 cm. (pleraque 8-12 cm.) longa et 1.5-6 cm. (pleraque 3.5-5 cm.) lata, integra vel rarius dentibus paucis remotis supra medium instructa, acuminata, rarius obtusa, mucronulata, basi rotundata vel truncata, interdum angustata, rarius leviter subcordata, utrinque nervis 3-6 curvatis et ascendentibus subtus elevatis supra leviter impressis, venulis reticulatis, supra sparse subtus dense pilis stellatis flavido-cinereis oblecta; petioli 1-3.5 cm. longi, villosi. Flores numerosi, in paniculam 3-9 cm. altam dispositi; pedicelli 0.5-1.5 cm. longi et rhachis stellato-pubescentes; bractaeae et bracteolae membranaceae, lineares, 0.2-0.5 cm. longae, caducae; calyx infundibuliformis, 0.6-0.8 cm. longus, 5-dentatus, dentibus ovatis obtusis vel acutis, cinereo-stellato-pubescentibus; corolla alba, calyce duplo longior, petalis patentibus obovato-spatulatis margine undulatis et saepe sparse ciliatis, extus pubescentibus; columna staminalis longe exserta, 2-3.5 cm. longa, antheris flavis. Fructus lignosus pyriformis, 3.5 cm. longus et 2.5 cm. latus, sulcatus, apice depressus, basi acutus.

WESTERN CHINA. Szechuan: Monkong Ting, descent of the Pan-lan-shan, side of stream, alt. 2300 m., *E. H. Wilson*, no. 4395, October, 1910 (fruiting; type); cultivated Hort. Berckmans, Augusta, Ga., raised from Wilson's no. 4395, received Herb. Arnold Arboretum May 9, 1917 (flowers); cultivated Hort. J. C. Williams, Caerhays Castle, Cornwall, England, raised from Wilson's no. 4395, flowered August, 1924. YUNNAN: Mengtsze, alt. 1800 m., *A. Henry*, no. 11510; without precise locality, *G. Forrest*, nos. 15897, 17640.

In Sargent's *Plantae Wilsonianae* this tree is identified with *R. pubescens* Mast. from the mountains of Sikkim and Botan, but we had only fruiting specimens. Now with flowering material available obvious differences are apparent. It is certainly closely related to *R. pubescens* Mast. but in that species the leaves are thinner and cordate or rarely truncate at the base and the flowers, which are said to be pink, have linear-spatulate petals and shorter calyx teeth. The other Himalayan species *R. Wallichii* Br. with which Dunn confused this Chinese plant differs markedly in its thinner very sparingly stellate-pubescent leaves, truncate or rounded at the base, much smaller flowers and oblong fruit. The Chinese *R. thyrsoides* Lindl., native of Hongkong, with which the Formosan *R. formosana* Kanehira is probably conspecific has smooth, shining, lanceolate to oblong, rarely elliptic leaves, narrowed or rounded at the base and quite glabrous and flowers about one-third the size of our new species, and a smaller fruit. In Fedde, Rep. Spec. Nov. iv. 330 (1907) Messrs. Léveillé and Vaniot briefly describe a plant as *R. Cavaleriei* but the description is too incomplete for definite identification, indeed, it is doubtful if it belongs to the genus.

I saw only one specimen of this interesting new *Reevesia* during my travels in China and that was growing in a remote district in western Szechuan where it was known as the "Soh-lou" tree. Both Henry and

Forrest collected specimens of this tree in Yunnan where it would appear to be more common than farther north. The tree I saw had rough firm gray bark, rather slender, spreading branches which formed a flattened round crown. Fortunately it bore ripe fruit and I was able to send a good supply of seeds to the Arnold Arboretum. These were widely distributed and germinated freely. A plant raised from these seeds flowered for the first time in cultivation in the nursery of P. J. Berckmans Company, Augusta, Georgia, early in May, 1917; in August of this year it flowered for the first time in England in the garden of Mr. J. C. Williams at Caerhays. With its terminal heads of white, fragrant flowers with protruding genitalia it is a singularly handsome tree. It has not proved hardy in the Arnold Arboretum and requires a mild genial climate in which to thrive.

NEW SPECIES, VARIETIES AND COMBINATIONS FROM THE
HERBARIUM AND THE COLLECTIONS OF THE
ARNOLD ARBORETUM¹

ALFRED REHDER

***Juglans notha* (*J. regia* × *Sieboldiana*), hybr. nov.**

Arbor ramis patentibus comam rotundatum formantibus; ramuli aurantiaco-flavidi vel cinereo-brunnei, puberuli et sparse crispo-pilosuli, secundo anno glabrescentes. Folia petiolo glanduloso-puberulo et crispo-pilosulo 8–10 cm. longo incluso 30–50 cm. longa, 7–9-foliolata; foliola elliptica vel oblongo-elliptica, 8–14 cm. longa et 4.5–7.5 cm. lata, terminale late ellipticum, 12–15 cm. longum et 8–11 cm. latum, apice subito breviter acuminata, basi obliqua truncata, remote et minute denticulata, supra glabra, subtus ad costam, venas et sparse ad venulas glanduloso-pubescentia, utrinque venis 10–15 instructa. Amenta mascula 4–5 cm. longa; flores bractea pubescente et perigonii lobis minute puberulis, filamentis brevissimis, antheris oblongis apice crista truncata instructis. Fructus subglobosus glanduloso-puberulus et pilosulus; nux globoso-ovoidea, circiter 3.5 cm longa, basi truncata, apice subito acuminulata, sutura elevata subalata, facie rugosa areolis vix elevatis, vel in altero specimine gibbosorugosa et interdum in utraque parte leviter 3-costata; paries ossea lacunis 4 majoribus et 4 vel 5 minoribus instructa; dissipimentum osseum, circiter 1 mm. crassum, lacunosum, mediam nucem aequans vel paullulo superans.

SPECIMENS EXAMINED: Arnold Arboretum, cultivated under no. 14777 *A. Rehder*, October 9, 1921 and May 20, 1924; Hort. R. Bates, Jackson, South Carolina, *W. G. Bixby*, October 19, 1919 (as “Siebosian Walnut”).

This hybrid was raised in this Arboretum in 1878 from seed sent by A. Lavallée from Segrez, France. Of the seedlings raised two trees have been growing here; one of them, which is now dead, was typical *J. Siebol-*

¹ Continued from p. 59.

diana, as herbarium specimens show, while the other which is still alive, shows clearly the influence of *J. regia*. It is a large tree about 18 m. tall with a round spreading head and a trunk 1.65 m. in girth and clothed with shallowly fissured gray bark. Its leaves differ from those of *J. Sieboldiana* in having only 7-9 leaflets which are comparatively broader, glabrous above and less pubescent beneath and on the margin only remotely and minutely denticulate with the minute mucro-like teeth about 5 mm. distant from each other. From *J. regia* the leaves are easily distinguished by the more numerous and larger leaflets remotely denticulate on the margin and pubescent on the midrib and on the veins beneath. The fruit is subglobose, less densely pubescent and less viscid than that of *J. Sieboldiana* and the nut is very much like that of *J. Sieboldiana* in its general appearance and structure except that the suture is less prominent and the apex only slightly and abruptly produced into a short mucro. The nut from the tree on Mr. Bates' place differs somewhat in being larger with a more prominent suture and a more rugose and gibbous surface, but in the foliage there is little or no difference.

Juglans notha* var. *Batesii (*J. regia* × *Sieboldiana* var. *cordiformis*), hybr. nov.

A typo hybridae differt nuce longiore magis ovoidea et acuminata, leviter compressa et leviter rugulosa—Folium unicum 7-foliolatum foliolis obtusioribus, ceterum ut in typo.

SPECIMENS EXAMINED: Hort. R. Bates, Jackson, South Carolina, *W. G. Bixby*, October 19, 1919 (as "Cording Walnut").

The nut of this hybrid differs little from that of *J. Sieboldiana* var. *cordiformis* except that it is longer and more ovoid and slightly rugose, but the leaf shows clearly the influence of *J. regia* and does not differ from that of typical *J. notha*.

***Philadelphus Delavayi* var. *calvescens*, var. nov.**

Philadelphus nepalensis Diels in Notes Bot. Gard. Edinb. vii. 291, 292, nos. 5032, 5036 (1912).—Non Koehne.

Philadelphus Delavayi Stapf in Bot. Mag. cXLIV. t. 9022 (1924).—Non L. Henry.

A typo recedit foliis tantum subtus ad costam venasque et sparsissime ad venulas adpresse setoso-pilosis vel interdum fere glabris supra sparse adpresse setoso-pilosis, petiolis sparse adpresse pilosis vel glabris.

YUNNAN: "in collibus prope Lichiang versus occ.," *C. Schneider*, no. 1896, July 18, 1914 ("fl. albi, frut. ad 4 m."; type); Mo tao tsin, Kou ty, near Pe yen tsin, *Siméon Ten*, no. 469, April 15, 1917 (8-12 m.) and no. 543, 1918; eastern flank of the Tali range, alt. 3000-3300 m., moist open situations amongst scrub, *G. Forrest*, no. 5036, July-August, 1906 (flowers creamy white, fragrant; one of the three branches on the sheet in the Arnold Arboretum herbarium is referable to *P. Henryi* Koehne).

This variety which differs from the type chiefly in the glabrescent leaves

has been confused with *P. nepalensis* Koehne which, however, is easily distinguished by the leaves being glabrous or nearly so above and on the lower surface bearded near the base in the axils of the veins with long villous hairs, glabrous on the midrib and on the veins and light green, not glaucescent, by the longer and comparatively narrower stigmas and the green calyx. The variety occurs in the same region as the type of which I have before me specimens from the Lichiang range (*G. Forrest*, no. 2195, *C. Schneider*, no. 1806), from between Yung ning and Yung peh (*C. Schneider*, no. 3505) and without precise localities (*G. Forrest*, nos. 16211, 16412 and 1933), all in Yunnan and one from southern Szechuan, between Hunka and Woloho (*C. Schneider*, no. 1529).

The plant figured in Botanical Magazine was raised from seed sent by *G. Forrest* to England; the type was introduced to France by *J. M. Delavay* in 1888.

***Neillia sparsiflora*, sp. nov.**

Frutex gracilis; ramuli hornotini floriferi pilis patentibus ad 2 mm. longis glanduliferis rubescentibus sparse vel interdum densius obsiti, ceterum glabri, annotini rubri vel rubescentes, glabri. Folia ovata vel ovato-oblonga, 3.5–6 cm. longa, longe acuminata, basi truncata vel subcordata, basi lobis 2 triangulari-ovatis acutis instructa, ceterum lobulata, inequaliter et fere dupliciter serrata dentibus acuminatis, supra laete viridia et glabra, subtus pallidiora et costa venisque sparse glanduloso-pilosis et axillis barbatis exceptis glabra, venis utrinque 5–6; petioli glanduloso-pilosi, ceterum glabri vel apicem versus adpresse pubescentes, 1–1.5 cm. longi; stipulae ovato-lanceolatae, glandulose serrato-ciliatae, petiolo circiter duplo breviores, glabrae. Racemi 4–6-, vel interdum ad 12-flori, pedunculo gracili incluso 3.5–4.5 cm. longi; rhachis ut pedunculus pilis longis rubris glanduliferis sparsius vel densius obsita, ceterum glabra; bractae lanceolatae, glanduloso-ciliatae, pedicellum 3–4 (in typo) vel 1–2 mm. longum superantes; calycis tubus urceolato-campanulatus, 7 mm. longus et in sicco 5–6 mm. latus, extus glaber, intus medio tantum villosulus; sepala ovato-lanceolata, acuminata, integra, 4 mm. longa, extus apicem versus leviter pubescentia, intus dense villosula; petala ovalia, 4.5–5 mm. longa, ciliolata et supra medium minute eroso-denticulata, ut videtur dilute rosea; stamina 20 et fere uniserialia (in typo) vel 25–30 et inaequaliter inserta (in specimine altero), longiora ad 2 mm. longa et sepala media superantia; ovarium supra medium pilosum, ovulis circiter 9; stylus 4.5 mm. longus, filamenta longiora fere aequans, stigmatate parvo.

NORTHWESTERN YUNNAN: Kou ty, near Pe yen tsin, *Siméon Ten*, nos. 462 (type) and 531, 1917 and 1918.

This species seems most closely related to *N. affinis* Hemsl. and to *N. longeracemosa* Hemsl.; from both species it is easily distinguished by the glabrous calyx-tube, the smaller, usually few-flowered raceme and the presence of long red gland-tipped hairs on the branchlets and on the rachis,

by which character it differs also from all other species of the genus known to me.

***Prunus yedoensis* var. *perpendens* Wilson, n. var.**

This variety though marked by long pendent branches is identical with the type in flowers and foliage. It is growing on the estate of Mr. David Fairchild, Chevy Chase, Maryland, having been imported from Japan. It is a singularly attractive tree well worthy of wide cultivation. Probably this is the "Yoshino-shidare zakura" of the Japanese.

E. H. Wilson.

***Thea Henryana*, comb. nov.**

Camellia Henryana Cohen Stuart in Mededeel. Proefstat. Thee Buitenzorg, XL. 132 (1916); in Bull. Jard. Bot. Buitenzorg, sér. 3, 1. 290, t. 30, fig. 15 (1919).

CHINA: Yunnan, Szemao and Mengtze.

***Thea Pitardii*, comb. nov.**

Thea speciosa Pitard apud Diels in Notes Bot. Gard. Edinb. v. 285 (1912).—Non Kochs.

Camellia Pitardii Cohen Stuart in Mededeel. Proefstat. Thee Buitenzorg, XL. 68 (1916); in Bull. Jard. Bot. Buitenzorg, sér. 3, 1. 240 (1919).

CHINA: Yunnan.

***Thea Crapnelliana*, comb. nov.**

Camellia Crapnelliana Tutchet in Jour. Linn. Soc. xxxvii. 63 (1904).

CHINA: Hongkong.

In his Thesis on the Tea plant Dr. Cohen Stuart (l. c. 57 [1916]; 232 [1919]) uniting as most botanists have done the two Linnaean genera *Camellia* and *Thea*, chose the name *Camellia* for the genus because Sweet in 1818 first united these two genera under *Camellia* and according to art. 46 of the International Rules of Botanical Nomenclature the name selected by the author who first unites two or more genera of the same date has to be accepted. In this case, the two names, however, though they both date from 1753, were not published at the same time, for *Thea* appeared on page 515 of vol. I. of Linnaeus' *Species plantarum*, while *Camellia* was published on p. 698 of vol. II. of the same work. As B. D. Jackson in a note on Linnaeus' *Species plantarum* (in Jour. Bot. LXI. 174 [1923]) shows conclusively, the two volumes were not published at the same date, but the first volume came out in May, 1753, while the second volume did not appear until August of the same year, therefore *Thea* has clearly the priority of *Camellia*. Dr. Cohen Stuart, when I drew his attention to B. D. Jackson's article and the inference to be drawn from it regarding the nomenclatorial question in the case of *Camellia* and *Thea*, agreed that it showed conclusively the priority of the name *Thea* and asked me to transfer those species of *Camellia* enumerated in his paper which had not yet received a binominal combination under *Thea*. This has been done above. Of the species enumerated by him without a com-

bination under *Thea* but which have already received a binominal under that genus I append the citations here.

Thea gracilis (Hemsl.) Hayata in Icon. Pl. Formos. vi. Suppl. 9 (1917).

Thea lutchuensis (Ito) Matsumura, Ind. Pl. Japan, ii. 361 (1912).

Thea confusa Craib in Kew Bull. Misc. Inform. 1914, p. 5.

Of *Camellia Costei* Léveillé in Fedde Rep. Spec. Nov. x. 148 (1911) I have seen no specimens and as it is doubtful if the plant described by Léveillé belongs to this genus, I think it better to defer the coining of a new combination until the status of this plant has been clearly established.

***Cornus dubia* (*C. amomum* × *paucinervis*), hybr. nov.**

Frutex ramis patentibus demum arcuato-dependentibus; ramuli hornotini subteretes, apice tantum leviter angulati pilis ferrugineis arcte appressis conspersi, supra purpurascentes, subtus virescentes, annotini glabri. Folia ovato-lanceolata vel oblongo-lanceolata, 5–8 cm. longa et 1.5–3.5 cm. lata, acuminata, basi late cuneata vel cuneata, supra laete viridia, lucidula, sparse appressequae pilosula, subtus pallide viridia, ad costam sparse pilis appressis ferrugineis albidisque mixtis sparse et ad venas sparsissime instructa, in facie sparse pilis appressis albidis conspersa; petioli 5–10 mm. longi, appresse breviterque pilosi. Corymbi longe pedunculati, 5–7 cm. diam., laxae pilis albidis ferrugineisque conspersi; sepala oblongo-lanceolata, glabrescentia, fere longitudine ovarii sericeo-pilosi; petala lanceolata, 5 mm. longa; filamenta et stylus apice manifeste clavatus, petalis circiter triente breviora. Drupa 6–8 mm. diam., appresse pilosula, maturitate initio intense coerulea demum fere nigra vel purpureo-nigra; putamen circiter 4 mm. altum et 4–5 diam., leviter compressum et leviter sed distincte costatum.

SPECIMENS EXAMINED: Arnold Arboretum, no. 13456, *A. Rehder*, July 2 and September 12, 1923.

This peculiar *Cornus* originated in the Arnold Arboretum apparently from seed of *C. paucinervis* Hance. It is clearly intermediate between this species and *C. amomum* Mill. and I have little doubt that it is a hybrid between these two species. From *C. paucinervis* it is clearly distinguished by larger and broader leaves with 3–4 not 2–3 pairs of veins, more distinctly ferrugineous-pilose on the veins beneath and of thinner texture, by the longer petioles usually 6–8, not 3–5 cm. long, and by the larger, more blue and earlier ripening fruit with a distinctly ribbed, slightly compressed stone and as broad or broader than high. From *C. amomum* it differs chiefly in the less deeply purple-colored and less densely pubescent branchlets, in the narrower leaves much less ferrugineous-pubescent beneath and with 3–4, not 4–6 pairs of lateral veins, in the smaller finally almost black, never light blue or whitish fruit with a smaller less strongly ribbed stone not or not much broader than high.

This new hybrid forms a wide-spreading bush with slender branches and produces in July its numerous corymbs on short branchlets along the arching branches; the fruits are profusely produced and of uniform dark blue or nearly black color.

Osmanthus ilicifolius Standish in Proc. Hort. Soc. Lond. II. 370 (1862), nomen.—Mouillefert, Arb. Arbriss. II. 982 (1896).—Nakai, Trees Shrubs Jap. I. 268 (1922).

Ilex Aquifolium Thunberg, Fl. Jap. 79 (1784).—Non Linnaeus.

Ilex Aquifolium var. *heterophylla* Ait.? apud Blume, Bijdr. 1150 (1860).—Non Aiton.

Olea ilicifolia Hasskarl, Cat. Hort. Bogor. 118 (1844).

Olea Aquifolium Siebold & Zuccarini in Abh. Akad. Muench. IV. pt. III. 166 (Flor. Jap. Fam. Nat. II. 42) (1846).

Osmanthus Aquifolium Siebold ex Siebold & Zuccarini, l.c. (1846), pro synon.—Bentham & Hooker, Gen. Pl. II. 677 (1876), "*O. aquifolia*."

Olea aquifolia c. *ilicifolia* Dippel, Handb. Laubholz. I. 141 (1891).

Osmanthus Aquifolium var. *ilicifolius* Nicholson in Kew Hand-list Arb. II. 89 (1896).

As the combination *O. Aquifolium* is based on a non-valid name, it can not be considered a valid binominal and has to be replaced by the combination with the next oldest specific name which is "*ilicifolia*." This change makes necessary the following new combinations, as Mouillefert (l.c.) published only *O. ilicifolius* var. *myrtifolius* and var. *latifolius*.

Osmanthus ilicifolius f. variegatus, comb. nov.

Osmanthus aquifolius variegatus Standish in Proc. Hort. Soc. Lond. I. 615 (1865).

Olea Aquifolium var. *foliis argenteo-variegatis* Lavallée, Arb. Segrez. 169 (1877).

Osmanthus Aquifolium var. *argenteus* Bailey in Cycl. Am. Hort. III. 1177 (1901).

Osmanthus ilicifolius f. aureus, comb. nov.

Osmanthus Aquifolium var. *foliis aureo-variegatis* Lavallée, Arb. Segrez. 169 (1877).

Osmanthus Aquifolium var. *aureum* Bailey in Cycl. Am. Hort. III. 1177 (1901).

Osmanthus ilicifolius f. purpureus, comb. nov.

Osmanthus Aquifolium var. *ilicifolius purpureus* Nicholson in Kew Hand-list, II. 89 (1896).

Osmanthus Aquifolium var. *atropurpureus* Schneider, Ill. Handb. Laubholz. II. 790 (1911).

Osmanthus ilicifolius f. rotundifolius, comb. nov.

Olea Aquifolium var. *rotundifolius* Jaeger, Ziergeh. ed. 2, 229 (1884).

Osmanthus Aquifolium var. *rotundifolius* Nicholson in Kew Hand-list Arb. II. 89 (1896).

Buddleia Davidii var. nanhoensis, comb. nov.

Buddleia variabilis var. *nanhoensis* Chittenden in Jour. Roy. Hort. Soc. XLVII. 193 (1922).

This variety of which plants are growing in this Arboretum differs from the other described forms chiefly in its lower stature with slender spreading branches, in the rather narrow, lanceolate leaves 7–12 cm. long and 1.5–3 cm. wide, gradually narrowed at the base into a very short petiole, and in the slender and rather loose inflorescence measuring only about 3.5 cm. through; the fragrant flowers are pale lilac with small orange eye and the corolla is quite glabrous outside with the limb about 8 mm. across.

This variety was introduced by R. Farrer in 1914 from near Kwanting in the Nan-ho valley, Kansu.

***Viburnum acerifolium* L. f. *ovatum*, f. nov.**

A typo recedit foliis manifeste ovatis indivisis margine tantum repandentatis, eis in apice ramulorum steriliū saepe integris vel fere integris et ovatis vel oblongo-ovatis.—Folia 6–12 cm. longa et 3.5–8.5 cm. lata, acuminata, basi cordata vel subcordata, subtus molliter pubescentia; petioli 1–2 cm. longi; ceterum ut in typo.

NEW YORK: Cobs Hill near Rochester, *H. B. Slavin*, no. 4, June 10 and August 23, 1920 (type).

MASSACHUSETTS: steep rocky wooded slope, North Adams, Berkshire Co., *M. L. Fernald & Bayard Long*, no. 10461, June 23, 1913.

INDIANA: in a White Oak wood 2 miles east of Grayford, Jennings Co., *C. C. Deam*, no. 38593, May 30, 1923.

This form with its undivided ovate leaves looks quite distinct from the typical 3-lobed form and bears some resemblance to *V. affine* var. *hypomalacum* Blake but is easily distinguished by its longer-petioled, larger leaves, the smaller flowers and the differently shaped fruit. The specimen from Massachusetts has smaller leaves than the type, not exceeding 7 cm., and that from Indiana has the leaves more strongly toothed with broad triangular teeth.

Plants of this form received from Rochester in the autumn of 1920 are growing in this Arboretum.

***Dipelta floribunda* Maxim. var. *parviflora*, var. nov.**

Dipelta yunnanensis F. N. Meyer in U. S. Dept. Agric. Bur. Pl. Indust. Invent. Seeds Pl. Imp. XLII. 36, 54, nos. 39905, 40027 (1918).—Non Franchet.

A typo recedit foliis minoribus late ellipticis vel elliptico-lanceolatis 3.5–6 cm. longis subtus ad costam venasque sparsius breviusque pilosis, petiolus ramulisque glabrescentibus vel breviter puberulis, pedunculis ut videtur saepissime unifloris, pedicellis sparsius pubescentibus, sepalis subulatis 3–4 mm. longis, corolla circiter 2 cm. longa et sensim in tubum angustata, ovario apicem versus tantum hirsuto.

SPECIMENS EXAMINED: Arnold Arboretum, *A. Rehder*, June 12, 1924 (raised from cuttings sent by F. N. Meyer from Paoji, Kansu, to the U. S. Department of Agriculture in 1914 and distributed under no. 40027).

This variety differs from the typical form only in the smaller size and slighter pubescence of all its parts. It is not as ornamental as the type which has up to six flowers on a peduncle with the corolla varying between 2.5 and 3 cm. in length. As far as I know the species has not yet been recorded from Kansu.

***Diervilla Middendorffiana* Carr. f. *bicolor*, comb. nov.**

Calyptrostigma Middendorffiana var. *bicolor* Regel in Gartenfl. vi. 4, t. 183 (upper two flowers) (1857).

SPECIMENS EXAMINED: Bot. Gard., Forst-Akad. Muenden, *H. Zabel*, Aug. 5, 1873 (as no. 18; received from Haage & Schmidt, Erfurt, in 1872).

This form differs from the type in the conspicuous purple markings on the lower lip. Regel states that the flowers are somewhat shorter than in the type, but the specimen before me has flowers about 4.5 cm. long; the leaves are rather thin and pilose beneath chiefly on the midrib and on the veins.

(To be continued)

ERRATA

Page 12, line 15 from below for *J. Hers*, no. 252, read *H. H. Hu*, no. 253.

" 13, line 23 and 24 from above change to

Kalopanax ricinifolium Harms & Rehder in Sargent, Pl. Wilson. II. 564 (1916).

Acanthopanax ricinifolium Harms in Mitt. Deutsch. Dendr. Ges. XXVII. t. 5, fig. A-D (1918).

" 13, line 26 and 27 for no. 602 read no. 602 in part.

" 13, line 28 from above for Fupe read Hupeh.

" 13, line 28 after *Silvestri* add no. 1601.

" 13, line 30 from above for 2020 read 12629 and add Huang tsauba Taipinggai, prov. Kweichou, *H. Handel-Mazzetti*, no. 10346.

" 21, line 15 from below for *arboricolum* read *arboricola*.

" 29, line 14 from above for *Nakai* read *Nikai*.

" 32, lines 3-9 from above strike out and replace by lines 17-23.

" 32, line 17 from above for Hsi read Hsien and transfer lines 17-23 to take the place of lines 3-9. The citations under *ARALIA CHINENSIS* var. *NUDA* (line 17-23) should be replaced by the following citations:

CHINA: near Chang hua, prov. Chekiang, *F. N. Meyer*, no. 1569; prov. Chili, *Père Chanet*, no. 83; Lushih, prov. Honan, *J. Hers*, no. 1151; Tai pei shan, prov. Shensi, *W. Purdom*, no. 1; South Wu-shan, prov. Hupeh, *E. H. Wilson*, no. 128*; Monte Triora, prov. Hupeh, *C. Silvestri*, no. 1609; Pan-lan-shan, prov. Szechuan, *E. H. Wilson*, no. 4386; Min valley, prov. Szechuan, *E. H. Wilson*, no. 4560; prov. Szechuan, *E. H. Wilson*, Veitch Exped. no. 3692; south of Red River, prov. Yunnan, *A. Henry*, no. 9479.

" 33, line 18 from above for 1840 read 1843.

" 35, line 11 from above for 1824 read 1843.

" 55, line 20 from below for XII read XIII.

" 55, line 13 from below for on-sided read one-sided.

" 56, line 8 from below for 643 read 6431.

" 150, lines 9-11 from above change to

Litsea fruticosa (Hemsl.) Gamble in Sargent, Pl. Wilson. II. 77 (1914).

Benzoin fruticosum (Hemsl.) Rehder in Jour. Arnold Arb. I. 145 (1919).—Hers in Jour. N. China Branch R. As. Soc. LIII. 107 (1922); Liste Ess. Lign. Honan, 4(1922).

INDEX

Synonyms are printed in *italics*; new names in bold-face type.

Acanthopanax, 1
Acanthopanax, 7, 9, 11
 — sect. *Cephalopanax*, 5
 — — *Eleutherococcus*, 9
 — — *Euacanthopanax*, 1, 2, 5, 9
 — — *Evodiopanax*, 7
 — — **Orthacanthopanax**, 1
 — — *Sciadophylloides*, 7
 — — *Zanthoxylopanax*, 1
 — subsect. **Euacanthopanax**, 2
 — — *Ionostachyae*, 4
 — — **Zanthoxylopanax**, 1
 — *acerifolium*, 12
 — *aculeatum*, 1
 — *asperatum*, 6
 — *chiisanense*, 5
 — *commixtum*, 4
 — *divaricatum*, 6
 — — *inermis*, 6
 — *Eleutherococcus*, 10
 — *evodiaefolius*, 8
 — — *ferrugineus*, 8
 — *Fauriei*, 10
 — *gracilistylum*, 4
 — *Hondae*, 3
 — — **armatum**, 4
 — — *inermis*, 4
 — *hypoteucum*, 10
 — *innovans*, 8
 — *japonicum*, 4, 11
 — *kiusianum*, 2
 — *koreanum*, 3
 — *nipponicum*, 2
 — *pentaphyllum*, 11
 — — *variegatum*, 11
 — *ricinifolia*, 11
 — *ricinifolium*, 11, 12, 13, 242
 — — *Maximoviczii*, 11, 13
 — *sciadophylloides*, 7
 — *senticosus*, 10
 — — *inermis*, 10
 — *sepium*, 1
 — *sessiliflorum*, 5
 — *sessiliflorum*, 5
 — *spinosum*, 3
 — *spinosum*, 3, 4, 10
 — — *inermis*, 4
 — *trichodon*, 5
 — *trichodon*, 11
 — *trifoliatum*, 1

Acer Negundo, 127
 — *rubrum*, 127
 — — *tridens*, 127
 — *saccharinum*, 126
 — *saccharum*, 126
 — — *glaucum*, 126
 — *trifidum*, 23
Aesculus arnoldiana, 42
 — *discolor* × *lutea*, 47
 — *discolor mollis* × *neglecta*, 48
 — *discolor mollis* × *neglecta georgiana*, 47
 — *DuPontii*, 46
 — — *Hessei*, 47
 — *georgiana*, 45
 — — *lanceolata*, 46
 — — *pubescens*, 45
 — *glabra monticola*, 41, 127
 — *glabra* × *hybrida*, 42
 — *mutabilis*, 47
 — — *induta*, 48
 — — *penduliflora*, 48
 — *neglecta*, 43
 — — *georgiana*, 45
 — — — × *Pavia*, 47
 — — *lanceolata*, 46
 — — *pubescens*, 45
 — — *tomentosa*, 46
 — — × *Pavia*, 46
 — *octandra vestita*, 42
 — *Pavia mutabilis*, 47
Agalma, 19
 — *lutchuense*, 20
 — *taiwanianum*, 19
Akebia lobata, 137
 — — *australis*, 133
 — *quinata*, 137
Alnus rugosa, 120
Amelanchier asiatica sinica, 193
 — *asiaticus*, 193
 — *canadensis*, 124
Amorpha fruticosa, 125
 — *glabra*, 125, 132
 — *tennessensis*, 125
Amygdalus communis, 214, 215
 — — *tangutica*, 215
 — *pedunculata*, 216
 — — *multiplax*, 216
 — — *polygyna*, 216
 — — *simplex*, 216
 — *Persica*, 213

- Amygdalus Persica multiplex*, 214
 — — *Potanini*, 215
 — — *pilosa*, 216
 — — *sp.*, 213
 — — *tangutica*, 215
Andromeda, 49, 54, 55
 — sect. *Lyonia*, 54
 — — *Maria*, 55
 — — *Pieris*, 55
 — — *coriacea*, 50
 — — *elliptica*, 52
 — — *frondosa*, 50
 — — *glaucophylla latifolia*, 55
 — — *lacustris*, 51
 — — *lanceolata*, 52
 — — *ligustrina pubescens*, 50
 — — *lucida*, 50
 — — *marginata*, 51
 — — *mariana*, 51
 — — *oblonga*, 51
 — — *ovalis*, 51
 — — *myrtifolia*, 51
 — — *nitida*, 50
 — — *obovata*, 51
 — — *ovalifolia*, 52
 — — *paniculata foliosiflora*, 50
 — — *tomentosa*, 50
 — — *polifolia latifolia*, 55
 — — *pulchella*, 51
 — — *squamulosa*, 52
 — — *tomentosa*, 50
 — — *villosa*, 53
Aralia, 27
 — sect. *Dimorpanthus*, 28
 — — *Ginseng*, 33
 — — *Paratropia*, 21
 — — *canescens*, 30, 31
 — — *chinensis*, 31
 — — *albo-marginata*, 31
 — — *aureo-variegata*, 31
 — — *canescens*, 30, 31
 — — *elata*, 31, 32
 — — *glabrescens*, 30, 32
 — — *nuda*, 32, 242
 — — *variegata*, 31
 — — *cordata*, 28
 — — *sachalinensis*, 29
 — *Decaisneana*, 32
 — *edulis*, 28
 — *elata*, 30
 — — *aureo-variegata*, 31
 — — *canescens*, 31
 — — *variegata*, 31
 — *Faribuki*, 15
Aralia glabra, 28
 — *hypoleuca*, 29
 — *japonica*, 16
 — — *variegata*, 17
 — *Laribuki*, 15
 — *mandshurica*, 30
 — *Maksimowiczii*, 13
 — *Mitsude*, 23
 — *nudicaulis*, 28
 — *nutans*, 28
 — *papyrifera*, 18
 — *pentaphylla*, 3, 10
 — *Planchoniana*, 32
 — *quinquefolia Ginseng*, 35
 — — *repens*, 33
 — *racemosa sachalinensis*, 28, 29
 — *repens*, 33
 — *Sieboldii*, 16
 — — *variegata*, 16
 — *spinosa*, 129
 — *spinosa*, 29, 30, 32
 — — *canescens*, 30, 31
 — — *glabrescens*, 30
Araliaceae Imperii Japonici, 1
Araliastrum, 32
Ardisia escallonioides, 49
 — *paniculata*, 48
Arkansas and Oklahoma, The Ligneous Flora of, 108
Armeniaca Davidiana, 212
Arnold Arboretum, New Species, Varieties and Combinations from the Herbarium and the Collections of the, 49, 235
Arsenococcus, 54
 — *frondosus*, 50
Ascyrum hypericoides, 128
 — *stans*, 128
Asimina triloba, 123
Aspidopteris nutans, 228
 — *orbiculata*, 228
Azalea myrtifolia, 103
 — *ovata*, 103
Benzoin aestivale, 123
 — *cercidifolium*, 150
 — *citriodorum*, 149
 — *fruticosum*, 150
 — *fruticosum*, 242
 — *glaucum*, 148
 — *obtusilobum*, 150
 — *reflexum*, 150
 — *umbellatum*, 149
Berberis aggregata, 140
 — *amurensis*, 143
 — *brachypoda*, 142

Berberis aggregata salicaria, 142

- Caroli, 140
- — *hoanghensis*, 140
- *chinensis*, 140
- *circumserrata*, 139
- *dasystachya*, 142
- *diaphana*, 139
- — *circumserrata*, 139
- Dielsiana, 141
- *dolichobotrys*, 142
- *dubia*, 141
- *Gilgiana*, 142
- *Giraldii*, 143
- *Henryana*, 141
- *heteropoda oblonga*, 142
- *integerrima stenophylla*, 140
- *levis*, 138
- *Liechtensteinii*, 139
- *nepaulensis*, 144
- *parvifolia*, 139
- *Poiretii*, 140
- *Poiretii*, 141
- — *weichangensis*, 141
- *Potaninii*, 139
- *Purdonii*, 140
- *salicaria*, 143
- *sinensis*, 140, 141
- — *angustifolia*, 140
- — *crataegina*, 141
- *Soulieana*, 138
- *sphalera*, 139
- *stenophylla*, 138
- *Vernae*, 140
- *vulgaris*, 141, 143
- — *amurensis*, 143
- — *emarginata*, 141
- — *normalis*, 141
- *Wallichiana*, 138
- Berchemia scandens, 127**
- Betula nigra, 120**
- Boerlagiodendron, 21**
- *kotoense*, 22
- *pectinatum*, 22
- Boninofatsia, 17**
- *oligocarpella*, 17
- *Wilsonii*, 17
- Brandisia discolor, 233**
- *Hancei*, 233
- Brassaiopsis, 11**
- *ricinifolia*, 11
- Buddleia Davidii nanhoensis, 240**
- *variabilis nanhoensis*, 240
- Bumelia lanuginosa, 130**
- Butea parviflora, 228**

- Callicarpa americana, 131**
- Calycanthus praecox*, 148
- Calypsothigma Middendorffiana bicolor*, 241
- Camellia Crapnelliana, 238**
- *Henryana*, 238
- *Pitardii*, 238
- Carpinus caroliniana, 120**
- Carya alba, 120**
- — *ficoides*, 120
- *Buckleyi arkansana*, 120
- *cordiformis*, 119
- — *latifolia*, 119
- *ovalis obovalis*, 120
- Castanea Margareta, 120**
- *ozarkensis*, 120
- Ceanothus americanus, 127**
- *ovatus*, 127
- Celtis Biondii, 73**
- *Biondii*, 74
- — *heterophylla*, 73
- *Bungeana heterophylla*, 73, 74
- *Leveillei*, 73
- — **heterophylla, 74**
- — **holophylla, 74**
- *laevigata*, 122
- *texana*, 122
- *pumila*, 122
- — *georgiana*, 122
- *sinensis*, 73
- Cephalanthus occidentalis, 130**
- Cephalopanax sessiliflorum*, 6
- Cerasus spec.*, 221
- Cercis canadensis, 125**
- Chaenomeles japonica, 185**
- *lagenaria*, 185
- *Wilsonii*, 185
- *sinensis*, 186
- Chimonanthus fragrans*, 148
- Chinese Ligneous Plants, Notes on, 227**
- Chionanthus virginica, 131**
- Chosenia eucalyptoides, 72**
- *splendida*, 73
- Cocculus carolinus, 122**
- *diversifolius cinereus*, 144
- *Thunbergii trilobata*, 145
- *Thunbergii*, 145
- *trilobus*, 145
- Coprosmanthus japonicus*, 72
- Cordia thyrsiflora*, 38
- Cornus amomum × paucinervis, 238**
- *dubia*, 239
- *florida*, 129
- *obliqua*, 129
- Cotoneaster acutifolia, 176**

Cotoneaster acutifolia pekinensis, 176

— *villosula*, 176

— *villosula*, 176

— *adpressa*, 175

— *crenulata*, 178

— *Dammeri radicans*, 178

— *foveolata*, 175

— *gracilis*, 177

— *horizontalis*, 175

— *perpusilla*, 175

— *melanocarpa*, 176

— *microphylla*, 175

— *moupinensis*, 176

— *multiflora*, 177

— *calocarpa*, 178

— *nummularius*, 177

— *Pyracantha*, 178

— *racemiflora microcarpa*, 177

— *soongarica*, 177

— *Veitchii*, 175

— *reflexa*, 177

— *sp.*, 176, 177

— *vulgaris*, 175

— *Zabelii*, 175

Crataegus apiifolia, 124

— *Bibas*, 69

— *bracteata*, 124

— *Bushii*, 124

— *cuneata*, 179

— *dsungarica*, 179

— *hupehensis*, 179

— *indica*, 65, 66

— *monogyna*, 180

— *Oxyacantha*, 180

— *pagensis*, 124

— *pinnatifida*, 180

— *pinnatifida*, 181

— *major*, 181

— *rubra*, 66

— *sinensis*, 66

— *sp.*, 180

— *spathulata*, 124

— *spiralis*, 65

— *straminea*, 124

— *Wattiana*, 180

— *Wilsonii*, 179

Cudrania tricuspidata, 228

Cudranus trilobus, 228

Cydonia japonica, 185

— *genuina*, 185

— *oblonga*, 184

— *sinensis*, 186

— *vulgaris*, 184

Daphne Gardneri, 82

Daphne papyrifera, 82

Daphniphyllum macropodum Lhuysii, 78

Decaisnea Fargesii, 137

— *insignis*, 137

Dendropanax, 22

— *acuminatissimum*, 232

— *japonicum*, 23, 24

— *morbiferum*, 22

— *spec.*, 24

— *trifidum*, 23

Desmothamnus, 55

— *nitidus*, 51

Deutzia albida, 154

— *Baroniana*, 155

— *corymbosa*, 158

— *parviflora*, 157

— *discolor*, 154

— *albida*, 154

— *glabrata*, 158

— *glaberrima*, 158

— *grandiflora*, 155

— *grandiflora*, 154

— *Baroniana*, 155

— *glabrata*, 155

— *minor*, 154

— *typica*, 154

— *hamata*, 156

— *hypoglauca*, 158

— *micrantha*, 157

— *parviflora*, 156

— *parviflora*, 156

— *Bungei*, 156

— *micrantha*, 157

— *mongolica*, 156

— *ovatifolia*, 157

— *prunifolia*, 156

— *scabra*, 154

— *Vilmorinae*, 154

Diervilla Middendorffiana bicolor, 241

Dimorphanthus, 28

— *edulis*, 28

— *elatus*, 30

— *mandshuricus*, 30

Diospyros virginiana, 130

— *platycarpa*, 130

Dipelta floribunda parviflora, 241

— *yunnanensis*, 241

Diplofatsia, 18

— *polycarpa*, 18

Diplospora mollissima, 233

Dirca palustris, 128, 133

Distylium gracile, 77

— *racemosum*, 77

Eastern Asia, Some new and noteworthy

- ligneous plants of, 72
Echinocarpus sinensis, 230
Echinopanax, 14
 — *elatum*, 15
 — *horridum*, 15
 — *japonicum*, 15
Edgeworthia, 81
 — *albiflora*, 82
 — *chrysantha*, 82
 — *chrysantha*, 82
 — *Gardneri*, 82
 — *Gardneri*, 82
 — *longipes*, 82
 — *papyrifera*, 82
 — *tomentosa*, 82
Ehretia acuminata, 37
 — *acuminata*, 37, 38, 39
 — — *grandifolia*, 38
 — — *laxiflora*, 37
 — *corylifolia*, 41
 — *Dicksoni*, 39
 — — *glabrescens*, 40
 — — *japonica*, 40
 — — *liukuensis*, 40
 — — *tomentosa*, 41
 — — *typica*, 40
 — *macrophylla*, 39, 40
 — — *tomentosa*, 41
 — *Onava*, 37
 — *ovalifolia*, 38
 — *pilosula*, 37
 — *polyantha*, 37
 — *serrata*, 39
 — *serrata*, 38
 — — *obovata*, 38
 — — *pyrifolia*, 39
 — *taiwaniana*, 38
 — *thyrsiflora*, 38
 — — *latifolia*, 38
 — *virgata*, 37
Ehretiae quaedam Novae Asiaticae, 36
Elaeagnus kiusiana, 83
Elaeocarpus kwangtungensis, 229
 — *yentangensis*, 229
Eleutherococcus, 9
 — *hypoleucus*, 10
 — *japonicus*, 10
 — *japonicus*, 10
 — — *variegatus*, 11
 — *pentaphyllus*, 11
 — *senticosus*, 9
 — — *inermis*, 10
 — — *subinermis*, 10

Enumeration of the Ligneous Plants of

- Northern China, II, 137
Erica ciliaris Watsoni, 56
 — *Mackaii Watsonii*, 56
 — *Tetralici-ciliaris*, 56
 — *Tetralix Watsoni*, 56
 — *Watsoni*, 56
Eriobotrya, 67
 — *acuminatissima*, 71
 — *ambigua*, 72
 — *bengalensis*, 70
 — *bengalensis*, 68
 — — *angustifolia*, 70
 — *Brackloi*, 68
 — — *atrichophylla*, 68
 — *buisanensis*, 70
 — *deflexa*, 71
 — — *buisanensis*, 70
 — — *grandiflora*, 72
 — *dubia*, 70
 — *fragrans*, 71
 — *grandiflora*, 72
 — *Griffithii*, 72
 — *Henryi*, 70
 — *japonica*, 69
 — *lasiogyne*, 72
 — *luzoniensis*, 69
 — *oblongifolia*, 70
 — *obovata*, 69
 — *philippinensis*, 71
 — *prinoides*, 68
 — *prionophylla*, 72
 — *pseudo-Raphiolepis*, 70
 — *tengyuehensis*, 71
Eriobotryae Species Sino-Japonicae, Raphio-
lepidis et, 61
Eriolaena glabrescens, 231
 — *szemaoensis*, 230
Eucommia ulmoides, 166
Eugenia gracilentia, 232
Evodiopanax, 7
 — *evodiaefolium*, 8
 — — *ferrugineum*, 8
 — *innovans*, 8
Evonymus americanus, 126
 — *atropurpureus*, 126
Exochorda Girdii, 174
 — *grandiflora*, 174
 — *racemosa*, 174
 — — *Girdii*, 174
 — — *Wilsonii*, 174
Fagara mengtzeana, 228
Fagus grandifolia caroliniana, 120
Fatsia, 16

- Fatsia*, 15, 18
 — *horrida*, 15
 — *japonica*, 16
 — — *albo-marginata*, 16
 — — *albo-marginata*, 16
 — — *aureo-reticulata*, 17
 — — *aureo-reticulata*, 17
 — — *aureo-variegata*, 17
 — — *aureo-variegata*, 17
 — — *lobulata*, 17
 — — *lobulata*, 17
 — — *undulata*, 17
 — — *undulata*, 17
 — — *variegata*, 16
 — *Mitsude*, 23
 — *oligocarpella*, 17
 — *papyrifera*, 18
 — *polycarpa*, 18
Forsythia suspensa, 134
 — *viridissima*, 134
 — — *koreana*, 134
Forsythia viridissima var. *koreana*, 134
Fortunearia sinensis, 166
Fraxinus americana, 131
Gilibertia, 22
 — sect. *Eugilibertia*, 22
 — — *Dendropanax*, 22
 — — *Textoria*, 22
 — *acuminatissima*, 232
 — *japonica*, 23
 — *morbifera*, 22
 — *sinensis*, 24
 — *pellucido-punctata*, 24
 — *trifida*, 23
Gleditsia triacanthos, 125
Gomphandra hainanensis, 229
Halesia monticola vestita, 130, 133
Hamamelis macrophylla, 123
 — *vernalis*, 123
Hedera, 24
 — *colchica*, 26
 — *formosana*, 25
 — *Helix*, 25
 — — *colchica*, 26
 — — *japonica*, 26
 — — *japonica foliis variegatis*, 26
 — — *rhombea*, 26
 — — *rhombea argentea*, 27
 — — *rhombea marginata*, 27
 — — *rhombea ovata*, 27
 — — *rhombea variegata*, 27
 — — *submarginata*, 26
 — *japonica*, 23, 26
 — *japonica*, 25
Hedera japonica argentea, 27
 — — *variegata*, 26
 — *pedunculata*, 25
 — *rhombea*, 23, 25
 — — *variegata*, 26
 — *senticosa*, 10
Heptapleurum, 21
Heptapleurum, 19
 — subgen. *Agalma*, 19
 — — *Eu-Heptapleurum*, 21
 — *arboricola*, 242
 — *arboricolum*, 21
 — *octophyllum*, 20, 21
 — *racemosum*, 19
Heynea trijuga microcarpa, 229
Hiraea nutans, 228
 — *orbiculata*, 228
 — *rotundifolia*, 228
Horsfieldia, 15
 — *horrida*, 15
Hoyopsis Dielsii, 232
 HU, H. H., Notes on Chinese Ligneous Plants, 227
 Hupeh, The Rhododendrons of, 84
Hydrangea arborescens, 123
 — *Bretschneideri*, 158
 — — *glabrescens*, 159
 — — *Giraldii*, 159
 — — *setchuenensis*, 159
 — *Giraldii*, 159
 — *Hemsleyana*, 160
 — — "Hortensie," 160
 — *longipes*, 160
 — *macrophylla*, 160
 — *pubescens*, 158
 — *Rosthornii*, 160
 — *serrata*, 159
 — spec. "Hortensie," 160
 — *vestita*, 158
 — — *pubescens*, 158
 — *xanthoneura glabrescens*, 159
 — — *setchuenensis*, 159
 — — *Wilsonii*, 159
Hypericum oklahomense, 123
 — *prolificum*, 123
Ilex Aquifolium, 240
 — — *heterophylla*, 240
 — *caroliniana*, 126
 — *decidua*, 126
 — *opaca*, 126
Juglans nigra, 119
 — *notha*, 235
 — — *Batesii*, 236
 — *regia* × *Sieboldiana*, 235

- Juglans regia* \times *Sieboldiana cordiformis*, 236
Juniperus virginiana, 119
Kadsura chinensis, 147
Kalopanax, 11
Kalopanax, 1, 7
— *divaricatum*, 6
— *innovans*, 8
— *ricinifolium*, 11
— *ricinifolium*, 12, 242
— — *typicum*, 12
— — *chinense*, 13
— — *lutchuense*, 13
— — *magnificum*, 12
— — *Maximowiczii*, 13
— *sciadophylloides*, 7
Laurus umbellata, 63
Leucothoe sect. *Maria*, 55
— *coriacea*, 51
— *marginata*, 51
— *mariana*, 51
Ligneous Flora of Rich Mountain, Arkansas
and Oklahoma, 108
Lindera cercidifolia, 150
— *glauca*, 149
— *membranacea*, 149
— *obtusiloba*, 150
— — *villosa*, 150
— *triloba*, 150
Liquidambar formosana, 166
— *Styraciflua*, 123
Litsea fruticosa, 242
Litsea vel *Lindera*, 149
Lonicera flava, 133
Lyonia, 49, 54, 55
— subgen. *Eulyonia*, 54
— — *Pieris*, 55
— *Untergatt Maria*, 55
— *frondosa*, 50
— *ligustrina pubescens*, 50
— *lucida*, 51
— *mariana*, 51
— *marginata*, 51
— *nitida*, 51
— *ovalifolia*, 52, 53
Machura tricuspidata, 228
Machilus spec., 151
Maesa castaneifolia, 232
— *Henryi*, 232
Magnolia acuminata, 122, 132
— *aulacosperma*, 145
— *conspicua*, 146
— *denudata*, 146
— *Fordiana*, 228
— *Julan*, 146
Magnolia liliiflora, 146
— *obovata*, 146
— *parviflora*, 145
— *sericea*, 82
— *spec.*, 145
— *tomentosa*, 82
— *tripetala*, 122, 132
— *Yulan*, 146
Mahonia Bealii, 143
— *japonica*, 144
Malus baccata, 191
— *baccata*, 192
— — *gracilis*, 191
— — *mandshurica*, 192
— — \times *prunifolia*, 192
— *domestica*, 190
— *honanensis*, 193
— *kansuensis*, 193
— — *calva*, 193
— *prunifolia*, 189
— — *rinki*, 190
— *robusta*, 192
— — *persicifolia*, 192
— *sp.*, 190
— *spectabilis*, 190
— *theifera*, 192
— *toringoides*, 193
— *transitoria*, 192
— — *toringoides*, 193
Manglietia Fordiana, 228
Maximowiczia chinensis, 147
Meliosma Oldhami, 80
— *sinensis*, 80
Menispermum canadense, 122
— *dauricum*, 144
— — *pauciflorum*, 144
Meratia praecox, 148
— — *grandiflora*, 148
Mespilus bengalensis, 70
— *japonica*, 69
— *pinnaefida*, 180
— *Sieboldii*, 63
— *sinensis*, 66
— *spiralis*, 65
Micromeles alnifolia, 183
— — *tiliaefolia*, 183
Morus rubra, 122
NAKAI, T., Araliaceae Imperii Japonici, 1
— *Ehretiae* quaedam Novae Asiaticae, 36
— *Raphiolepidis* et *Eriobotryae* Species Sino-Japonicae, 61
— Some new and noteworthy ligneous plants of Eastern Asia, 72
Nandina domestica, 138

- Neillia sinensis*, 167
 — *sparsiflora*, 237
Neopieris, 55
 — *mariana*, 51
 — *nitida*, 51
 New Species of *Reevesia*, A, 233
 New Species, Varieties and Combinations
 from the Herbarium and the Collections of
 the Arnold Arboretum, 49, 235
 North American Trees, Notes on, XII, 41
 Northern China, Enumeration of the Ligneous
 Plants of, II, 137
 Notes on Chinese Ligneous Plants, 227
 Notes on North American Trees, XII, 41
 Notes on the Genus *Pinus*, 225
Nyssa sylvatica, 129
 Oklahoma, The Ligneous Flora of, Rich
 Mountain, Arkansas and, 108
Olea aquifolia ilicifolia, 240
 — *Aquifolium*, 240
 — — *rotundifolius*, 240
 — *ilicifolia*, 240
Opa integerrima, 62
 — *japonica*, 63
 — *Mertensii*, 62
 — *Metrosideros*, 65
 — *spiralis*, 65
Oplopanax, 15
 — *horridum*, 15
Opuntia humifusa, 129
Oreopanax, 19
 — *formosanum*, 19
Osmanthus Aquifolium, 240
 — — *argenteus*, 240
 — — *atropurpureus*, 240
 — — *aureum*, 240
 — — *foliis argenteo-variegatis*, 240
 — — *foliis aureo-variegatis*, 240
 — — *ilicifolius*, 240
 — — *ilicifolius purpureus*, 240
 — — *rotundifolius*, 240
 — *aquifolius variegatus*, 240
 — *ilicifolius*, 240
 — — *aureus*, 240
 — — *purpureus*, 240
 — — *rotundifolius*, 240
 — — *variegatus*, 240
Osmoxylon kotoensis, 22
Osteomeles anthyllidifolia, 77
 — — *boninensis*, 77
 — *boninensis*, 77
 — *Schwerinae*, 181
 — *spec.*, 181
Ostrya virginiana, 120
Oryzocoides japonicus sinica, 56
 PALMER, ERNEST J., The Ligneous Flora of
 Rich Mountain, Arkansas and Oklahoma,
 108
Panax, 32
Panax, 1, 15, 32
 — subgen. *Acanthopanax*, 1
 — — *Araliastrum*, 32
 — — *Aureliana*, 33
 — — *Eupanax*, 33
 — — *Oplopanax*, 15
 — *aculeatum*, 1
 — *divaricatum*, 6
 — *Ginseng*, 35
 — — *japonicum*, 33
 — — *japonicum dichrocarpum*, 34
 — — *japonica trifoliolatum*, 34
 — — *japonicum xanthocarpum*, 34
 — — *repens*, 33
 — — *repens trifoliolatum*, 34
 — *innovans*, 8
 — *japonicum*, 33
 — — *dichrocarpum*, 34
 — — *incisum*, 34
 — — *lancifolium*, 34
 — — *trifoliolatum*, 34
 — — *typicum*, 33
 — — *xanthocarpum*, 34
 — *Loureirianum*, 1
 — *quinquefolia coreensis*, 35
 — — *Ginseng*, 35
 — — *japonica*, 34, 35
 — — *subsessilis*, 33
 — *repens*, 33
 — *ricinifolium*, 11
 — *schin-seng*, 35
 — *coraiense*, 35
 — — *cultum*, 35
 — — *spontaneum*, 35
 — *japonica*, 33
 — *sessiliflorum*, 6
 — *spinosum*, 3
Paratropia, 19, 21
Parthenocissus quinquefolia hirsuta, 128
Pavia mutabilis, 47
Pellionia scabra, 228
Pentapanax, 27
 — *castanopsidicola*, 27
Persica Davidiana, 215
 — — *alba*, 215
 — *Simonii*, 211
 — *vulgaris*, 213
Philadelphus coronarius, 151
 — — *pekinensis*, 151

Philadelphus Delavayi, 236
 — *Delavayi calvescens*, 236
 — *incanus*, 153
 — — *Baileyi*, 153
 — *laxiflorus*, 152
 — *nepalensis*, 236
 — *pekinensis*, 151
 — — *dasycalyx*, 152
 — *pubescens*, 123, 132
 — — *intectus*, 123
 — *sericanthus*, 153
 — *subcanus*, 153
Phoradendron flavescens, 122
Photinia buisanensis, 70
 — *deflexa*, 71
 — *dubia*, 70
 — *luzoniensis*, 69
 — — *acuminatissima*, 71
 — *Sieboldii*, 63
 — *spec.*, 184
 — *villosa sinica*, 184
Physocarpus amurensis, 167
Pieris, 55
 — *sect. Eupieris*, 55
 — — *Maria*, 55
 — *Bodinieri*, 54
 — *bracteata*, 54
 — *compta*, 53
 — *coreana*, 54
 — *elliptica*, 53
 — *Fauriei*, 54
 — *formosana*, 52
 — *Forrestii*, 54
 — *Henryi*, 53
 — *lanceolata*, 52
 — *lucida*, 51
 — *mariana*, 51
 — *nitida*, 51
 — *ovalifolia*, 52, 53
 — — *elliptica*, 53
 — *lanceolata*, 52
 — — *pubescens*, 53
 — *pilosa*, 52
 — *polita*, 54
 — *villosa*, 53
 — — *pubescens*, 53
Pinus echinata, 119
 — *Krempfii*, 227
Pinus, Notes on the Genus, 225
Pipa, 69
Pirus, see *Pyrus*
Pittosporum glabratum, 166
Platanus occidentalis, 123
 — — *glabrata*, 124

Plectronia chinensis, 1
Polychroa scabra, 228
Populus balsamifera virginiana, 119
Potentilla davurica, 200
 — — *mandshurica*, 200
 — *eriocarpa*, 200
 — *fruticosa*, 199
 — — *davurica*, 200
 — — *mandshurica*, 200
 — — *ochreatea*, 200
 — — *parvifolia*, 200
 — — *Veitchii*, 200
Prinsepia uniflora, 224
Prunus Armeniaca, 212
 — — *ansu*, 212
 — — *sibirica*, 213
 — — \times *salicina*, 212
 — *brachypoda*, 223
 — — *pseudossiori*, 223
 — *Bungei*, 219
 — *Cerasus*, 221
 — *communis*, 214
 — *communis*, 211
 — *Davidiana*, 214
 — — *alba*, 215
 — — *Potanini*, 215
 — *dictyoneura*, 218
 — *domestica*, 211
 — *Giraldiana*, 220
 — *glandulosa*, 220
 — — *Purdomii*, 219
 — — *Faberi*, 220
 — — *sinensis*, 220
 — *humilis*, 219
 — — *villosula*, 218
 — *incisa gracilis*, 77
 — *japonica*, 220
 — *japonica*, 220
 — — *glandulosa*, 220
 — — *typica*, 220
 — — *P. glandulosa*, 220
 — — *var.*, 220
 — *kansuensis*, 213
 — *lanata*, 124
 — *macrophylla*, 78
 — *macrophylla sphaerocarpa*, 78
 — *mexicana*, 124
 — *mume*, 211
 — *Munsoniana*, 124
 — *nepalensis sericea*, 224
 — *Padus*, 222
 — — *pubescens*, 223
 — — *Purdomii*, 223
 — *pauciflora*, 221

- Prunus pauciflora aff.*, 220
 — *pendula*, 221
 — *Persica*, 213
 — — *albo-plena*, 214
 — — *Davidiana*, 215
 — — *duplex*, 214
 — — *necturina*, 211
 — — *Potanini*, 215
 — — *vulgaris*, 213
 — *Petzoldii*, 217
 — *phyllopoda*, 220
 — *pilosa*, 216
 — *pilosiuscula*, 222
 — "Plumcot," 212
 — *pseudocerasus*, 221
 — — *Sieboldii*, 221
 — *salicina*, 210
 — *sericea septentrionalis*, 224
 — *serotina*, 124
 — *serrulata pubescens*, 222
 — *setulosa*, 221
 — *sibirica*, 213
 — *Sieboldii*, 221
 — *Simonii*, 211
 — *spec.*, 224
 — *ssiori*, 223
 — *stipulacea*, 220
 — *tangutica*, 215
 — *tenuiflora Nebelii*, 222
 — *tomentosa*, 217
 — — *breviflora*, 218
 — — *endotricha*, 218
 — — *trichocarpa*, 218
 — — *tsuluensis*, 218
 — *trichocarpa*, 218
 — *triloba*, 217
 — *triloba*, 216
 — — *multiplex*, 216
 — — *normalis*, 217
 — — *Petzoldii*, 217
 — — *plena*, 216
 — — *simplex*, 216
 — *triflora*, 211
 — *velutina*, 224
 — *yedoensis perpendens*, 238
Ptelea trifoliata, 125
Pterospermum Levinei, 231
Pyracantha crenulata, 178
 — — *kansuensis*, 178
 — *Gibbsii*, 178
Pyrus Aria, 184
 — *Aucuparia*, 181, 182, 183
 — *baccata*, 191
 — — *mandshurica*, 191, 192
Pyrus baccata sibirica, 191
 — *betulaefolia*, 188
 — *betulifolia*, 189
 — *Bretschneideri*, 186
 — *Calleryana*, 188
 — *communis*, 186, 187
 — — *communis Pyrastrer*, 187
 — — *sativa*, 187
 — *Cydonia*, 184
 — *discolor*, 181
 — *japonica*, 185
 — *kansuensis*, 193
 — *kolupana*, 189
 — *Malus*, 190
 — — *glabra*, 189
 — — *tomentosa*, 190
 — *microphylla*, 183
 — *ovoidea*, 186
 — *pashia*, 189
 — *phaeocarpa*, 188
 — *pohuashanensis*, 182
 — *prunifolia*, 190
 — *serotina*, 187
 — — *culta*, 187
 — *serrulata*, 189
 — *Simonii*, 186
 — *sinensis*, 186, 187
 — *spec.*, 188
 — *spectabilis*, 190
 — *transitoria*, 192
 — *ussuriensis*, 186
 — — *ovoidea*, 186
Quercus alba, 121
 — *borealis maxima*, 121
 — *Chenii*, 74
 — *fokienensis*, 75
 — *glandulifera*, 76
 — — *brevipetiolata*, 76
 — *glanduligera*, 76
 — *Griffithii glanduligera*, 76
 — *heterophylla*, 121
 — *Ilex phillyraeoides*, 75
 — *Muhlenbergii*, 121
 — *Phellos*, 121
 — *phillyraeoides*, 75
 — *rubra*, 121
 — *Shumardii Schneekii*, 121
 — *stellata*, 121
 — — *araneosa*, 121
 — — *Margaretta*, 121
 — *urticaefolia brevipetiolata*, 76
 — *velutina*, 121
 — — *missouriensis*, 121
 — *Wrightii*, 75

Raphiolepidis et *Eriobotryae* Species Sino-Japonicae, 61

- Raphiolepis*, 61
 — *crataegoides*, 66
 — *gracilis*, 64
 — *indica*, 65, 66
 — *indica*, 65
 — — *angustifolia*, 64
 — — *crataegoides*, 66
 — — *grandifolia*, 61
 — — *latifolia*, 67
 — — *mekongensis*, 67
 — — *phaeostemon*, 65
 — — *spiralis*, 65
 — — *Tashiroi*, 66
 — — *typica*, 65
 — *integerrima*, 62
 — *japonica*, 62, 63
 — — *integerrima*, 62, 63
 — *liukuensis*, 63
 — *Loureiri*, 67
 — *major*, 62
 — *Mertensii*, 62
 — — *ovata*, 63
 — *minor*, 67
 — *ovata*, 63
 — *phaeostemon*, 65
 — *pheostemonia*, 66
 — *rubra*, 66
 — — *foliosa*, 66
 — — *lanceolata*, 67
 — — *minor*, 67
 — — *typica*, 66
 — *rugosa*, 62
 — *salicifolia*, 64
 — *Sieboldii*, 63
 — *sinensis*, 66
 — *spiralis*, 65
 — *umbellata*, 62
 — *umbellata*, 64, 66
 — — *liukuensis*, 63
 — — *Mertensii*, 62, 63
 — — *minor*, 67
 — — *ovata*, 63

Reevesia pubescens, 233

- *sinica*, 233
 — *Wallichii*, 233

Reevesia, A New Species of, 233

- REHDER, ALFRED, Enumeration of the Ligneous Plants of Northern China, II, 137
 — *Forsythia Viridissima* var. *Koreana*, 134
 — New Species, Varieties and Combinations from the Herbarium and the Collections of the Arnold Arboretum, 49, 235

Rhamnus caroliniana, 127

Rhododendron adenopodum, 92

- *atroviride*, 102
 — *aucubaefolium*, 105
 — *Augustinii*, 100
 — — *album*, 101
 — — *violascens*, 101
 — *auriculatum*, 98
 — — *roseum*, 99
 — *Benthamianum*, 102
 — *chionophyllum*, 91
 — *concinnum*, 102
 — *cornsutch*, 89
 — *detersile*, 90
 — *discolor*, 96
 — — *carneum*, 97
 — *Fargesii*, 93
 — — *album*, 95
 — *Fortunei Houlstonii*, 95
 — — *Kirkii*, 96
 — *gracilipes*, 91
 — *holmleaense*, 97
 — *Houlstonii*, 95
 — *hypoglaucom*, 91
 — — *album*, 92
 — *Kirkii*, 96
 — *konigdis*, 97
 — *maculiferum*, 89
 — *mandarinorum*, 96
 — *Mariesii*, 107
 — *micranthum*, 103
 — *molle*, 107
 — *oblongifolium*, 129
 — *ovatum*, 103
 — *pittosporaeifolium*, 105
 — *praeevernum*, 88
 — *roseum*, 129, 133
 — *Simsii*, 107
 — *stamineum*, 105
 — *sutchuenense*, 88
 — — *Geraldii*, 89
 — *Wilsonae*, 106
 — *yanthinum*, 101
 — — *album*, 103
Rhododendrons of Hupeh, The, 84
Rhus canadensis, 126
 — *glabra*, 126
 — *copallina*, 126
 — *Toxicodendron*, 126
 — *trilobata*, 126
Ribes acuminatum, 164
 — — *minus*, 164
 — *alpestre*, 165
 — *alpestre giganteum*, 166

- Ribes bureiense*, 165
 — *chifuense*, 163
 — *coeleste*, 164
 — *curvatum*, 123
 — *Cynosbati*, 123, 132
 — *emodense*, 161
 — — *glandulosum*, 162
 — — *urceolatum*, 161
 — — *verruculosum*, 162
 — *fasciculatum*, 163
 — — *chinense*, 163
 — *Giraldii*, 165
 — *glaciale*, 164
 — *grossularioides*, 165
 — *himalayense*, 161, 162
 — — *Decaisnei*, 162
 — — *glandulosum*, 162
 — — *urceolatum*, 162
 — *himalense*, 161
 — *latifolium*, 161
 — *macrocalyx*, 165
 — *manshuricum*, 161
 — *Meyeri*, 162
 — *moupinense*, 161
 — — *tripartitum*, 161
 — *multiflorum*, 161
 — — *mandshuricum*, 161
 — *Maximowiczii*, 163
 — *nigrum*, 163
 — *orientale*, 165
 — *pauciflorum*, 163
 — *petraeum*, 161
 — — *mongolica*, 161
 — *pulchellum*, 164
 — — *inerme*, 164
 — *rubrum*, 161
 — *stenocarpum*, 166
 — *tenuë*, 164
 — *tricuspe*, 164
 — *tripartitum*, 161
 Rich Mountain, Arkansas and Oklahoma,
 The Ligneous Flora of, 108
Robergia hirsuta, 229
Robinia Pseudoacacia, 125, 133
Rosa acicularis, 205
 — *Banksiae*, 203
 — *Banksiae*, 203
 — — *normalis*, 203
 — *banksiopsis*, 205
 — *bella*, 206
 — — *mongolica*, 206
 — — *pallens*, 206
 — *Biondii*, 207
 — *cathayensis*, 201
Rosa chinensis, 203
 — *Davidii*, 205
 — *davurica*, 204
 — *Ecae*, 210
 — *eglanteria*, 209
 — *Giraldii*, 207
 — *Hugonis*, 208
 — *indica*, 203
 — *Luciae poteriifolia*, 202
 — *macrophylla*, 205, 206
 — *macrophylla hypoleuca*, 206
 — — *mongolica*, 206
 — *Maximowicziana*, 202
 — *microcarpa*, 202
 — *microphylla*, 203
 — *moschata*, 202
 — — *micrantha*, 202
 — *multiflora*, 201
 — *multiflora*, 201
 — — *adenophora*, 201
 — — *carnea*, 201
 — *cathayensis*, 201
 — — *Praegeri*, 202
 — — *var.*, 201
 — *omeiensis*, 210
 — *pimpinellifolia*, 208
 — *Prattii*, 208
 — *Roxburghii normalis*, 203
 — *Rubus*, 202
 — *rugosa*, 204
 — *rugosa amurensis*, 204
 — *rugosa Chamissoniana*, 204
 — — *Chamissoniana*, 204
 — — *ferox*, 204
 — — *floribus plenis*, 204
 — — *rubro-plena*, 204
 — — *rubro-plena*, 204
 — *sericea*, 210
 — *setigera tomentosa*, 125
 — *spec.*, 201, 206, 208, 209
 — *subserrulata*, 125
 — *Sweginzowii*, 210
 — *Sweginzowii*, 207
 — *Sweginzowii*, 206, 210
 — *tsinlingensis*, 210
 — *Wichuraiana*, 202
 — *xanthina*, 209
 — *xanthina*, 208
 — — *normalis*, 209, 210
 — — *spontanea*, 209
 — *xanthinoides*, 208
Rubus acuminatissimus kansuensis, 199
 — *adenochlamys*, 197
 — *amabilis*, 195

- Rubus Andrewsianus*, 125
 — *biflorus*, 195
 — *corchorifolius*, 194
 — — *typica*, 194
 — *coreanus*, 196
 — *crataegifolius*, 194
 — *Davidianus*, 195
 — *euleucus*, 196
 — *flosculosus*, 197
 — *flagellaris invisus*, 125
 — *frondosus*, 125
 — *Giraldianus*, 198
 — *gracilis*, 196
 — *idaeus*, 198
 — — *strigosus*, 199
 — *innominatus*, 198
 — *lachnocarpus*, 198
 — *Lambertianus*, 194
 — — *hakonensis*, 194
 — *lasiostylus*, 196
 — *mesogaeus*, 198
 — — *oxycomus*, 198
 — *niveus*, 196
 — *occidentalis*, 125
 — *parvifolius*, 196
 — *pedunculatus*, 196
 — *phoenicolasius*, 197
 — *pileatus*, 195
 — *piluliferus*, 198
 — *pungens*, 195
 — — *indefensus*, 195
 — *purpureus*, 196
 — *saxatilis*, 194
 — *Sweginzowianus*, 197
 — *triphyllus*, 196
 — — *adenochlamys*, 197
 — — *purpureus*, 196
 — *xanthocarpus*, 194, 199
 SARGENT, C. S., Notes on North American
 Trees, XII, 41
Sassafras officinale, 123
Salix acutifolia, 73
 — *eucalyptoides*, 72
 — *longipes Wardii*, 119
 — *nobilis*, 73
 — *nigra*, 119
 — *rorida*, 73
 — *splendida*, 73
Schefflera sect. *Agalma*, 19
 — — sect. *Heptapleurum*, 21
 — *arboricola*, 21
 — *octophylla*, 20
 — *racemosa*, 19
Schisandra chinensis, 147
Schisandra propinqua sinensis, 147
 — *sphenanthera*, 147
Schizandra chinensis, 147
 SHAW, GEORGE RUSSELL, Notes on the Genus
Pinus, 225
Sibiraea laevigata angustata, 173
Sinomenium acutum cinereum, 144
 — *diversifolium cinereum*, 144
Sloanea sinensis, 230
Smilax Bona-nox, 119
 — *china trinervula*, 72
 — *glauca*, 119
 — *hispida*, 119
 — *japonica*, 72
 — *rotundifolia*, 119
 — *trinervula*, 72
 Some new and noteworthy ligneous plants
 from Eastern Asia, 72
Sorbaria arborea, 174
 — *arborea glabrata*, 174
 — *Kirilowii*, 173
 — *sorbifolia*, 173, 174
 — — *Kirilowi*, 173
Sorbus alnifolia, 183
 — *aperta*, 183
 — *discolor*, 181
 — *Folgneri*, 184
 — *Giraldiana*, 182
 — *hupehensis*, 183
 — — *aperta*, 183
 — *Koehneana*, 183
 — *pekinensis*, 181
 — *pohuashanensis*, 182
 — *spec.*, 182
 — *tapashana*, 182
Spatholobus parviflorus, 228
 — *Roxburghii*, 228
Spiraea alpina, 168
 — *angulata*, 172
 — *betulifolia*, 172
 — *Blumei*, 170
 — *cantoniensis*, 170
 — *crenifolia mongolica*, 168
 — *dasyantha*, 169
 — *Fritschiana*, 172
 — — *angulata*, 172
 — *gemmata*, 168
 — *hirsuta*, 170
 — *hypericifolia*, 167
 — — *hupehensis*, 168
 — — *thalictroides*, 168
 — *japonica*, 172
 — — *typica*, 172
 — *Kirilowii*, 173

- Spiraea longigemmis*, 172
 — *media sericea*, 169
 — *mongolica*, 168
 — *prostrata*, 168
 — *prunifolia*, 167
 — *pubescens*, 169
 — *pubescens*, 171
 — *sarbifolia*, 173
 — *trilobata*, 171
 — *Wilsonii*, 172
Staphylea trifolia, 126
Stemonurus hainanensis, 229
Stephanandra chinensis, 167
 — *incisa*, 167
Stranvaesia ambigua, 72
Symphoricarpos orbiculatus, 131
Syzygium gracilentum, 232
Tapiria hirsuta, 229
Tapiria hirsuta, 229
Tetradlea Lhuysii, 78
Tetrapanax, 18
 — *papyrifera*, 18
 — *ricinifolium*, 12
Textoria, 22
 — *japonica*, 23
Thea confusa, 239
 — *Crapnelliana*, 238
 — *gracilis*, 239
 — *Henryana*, 238
 — *lutchuensis*, 239
 — *Pitardii*, 238
 — *speciosa*, 238
Tilia floridana, 127
 — *hypoleuca*, 127
Tricalysia mollissima, 233
Turpinia arguta, 80
 — *formosana*, 80
 — *gracilis*, 79
 — *lucida*, 80
 — *nepalensis*, 79
 — *pomifera*, 78
 — *nepalensis*, 78
 — *ternata*, 78
Tylophora Dielsii, 232
 — *Hoyopsis*, 232
Ulmus alata, 122
 — *americana*, 122
 — *fulva*, 122
Vanieria tricuspidata, 228
Vaccinium, 54
Vaccinium arboreum, 130
 — *glaucescens*, 130
 — *japonicum sinicum*, 56
 — *stamineum*, 130
 — *vacillans crinitum*, 130
Viburnum acerifolium ovatum, 240
 — *molle leiophyllum*, 57
 — *pubescens Deamii*, 58
 — *indianense*, 59
 — *rufidulum*, 131
Vitis cinerea, 128
 — *cordifolia*, 128
 — *Linsecomii glauca*, 128
 — *rotundifolia*, 127
Walsura trijuga microcarpa, 229
Wendlandia glabrata, 83
Wendlandia Heyneana, 83
 WILSON, ERNEST H., A New Species of
 Reevesia, 233
 — The *Rhododendrons* of Hupeh, 84
Xolisma, 54
Xolisma, 49
 — *sect. Arsenococcus*, 54
 — *Lyonia*, 54
 — *Maria*, 55
 — *Pieridopsis*, 55
 — *compta*, 53
 — *ligustrina*, 130
 — *pubescens*, 50
 — *lucida*, 50
 — *mariana*, 51
 — *vestita*, 51
 — *ovalifolia*, 52
 — *elliptica*, 52
 — *lanceolata*, 52
 — *villosa*, 53
 — *pubescens*, 53
Yucca glauca, 119
Zanthoxylum multifoliolatum, 228
 — *trifoliatum*, 1